

Monthly Savings Worksheet

This Monthly Savings Worksheet will help determine how much to save monthly to achieve various financial goals.

In order to perform this calculation, four key pieces of information are needed:

- Financial goal
- Dollar amount already saved toward financial goal (present lump-sum)
- Time period desired for accomplishing goal
- Expected interest rate to be received when investing money

Start first with the dollar amount already saved toward that goal and find the future value of that lump-sum using your time period desired (expressed in years) and expected interest rate . . .

$$\begin{array}{r}
 \$ \underline{\hspace{2cm}} \\
 \text{present} \\
 \text{lump-sum}
 \end{array}
 \times
 \begin{array}{r}
 \underline{\hspace{2cm}} \\
 (\ \ \ \%) \\
 \text{interest rate} \\
 \text{factor (from} \\
 \text{Table A)}
 \end{array}
 =
 \$ \underline{\hspace{2cm}}
 \begin{array}{r}
 \text{value of} \\
 \text{lump-sum in} \\
 \underline{\hspace{1cm}} \text{ years}
 \end{array}$$

Now calculate the amount of money still needed . . .

$$\begin{array}{r}
 \$ \underline{\hspace{2cm}} \\
 \text{financial} \\
 \text{goal}
 \end{array}
 -
 \begin{array}{r}
 \underline{\hspace{2cm}} \\
 \text{value of} \\
 \text{lump-sum} \\
 \text{(calculated} \\
 \text{above)}
 \end{array}
 =
 \$ \underline{\hspace{2cm}}
 \begin{array}{r}
 \text{dollar amount} \\
 \text{still needed}
 \end{array}$$

Finally, determine the amount needed to be put away monthly in order to achieve your goal in the desired time period (expressed in months) . . .

$$\begin{array}{r}
 \$ \underline{\hspace{2cm}} \\
 \text{dollar amount} \\
 \text{still needed}
 \end{array}
 \times
 \begin{array}{r}
 \underline{\hspace{2cm}} \\
 \text{annuity factor} \\
 \text{for } \underline{\hspace{1cm}} \% \\
 \text{received} \\
 \text{annually over} \\
 \underline{\hspace{1cm}} \text{ months} \\
 \text{(from Table B)}
 \end{array}
 =
 \$ \underline{\hspace{2cm}}
 \begin{array}{r}
 \text{amount to be} \\
 \text{saved monthly} \\
 \text{to achieve goal} \\
 \text{at desired rate} \\
 \text{and time*}
 \end{array}$$

**Please note that this amount does not take into consideration inflation or any taxable income that may be generated from investing this money.*

Monthly Savings Worksheet (An Example)

This Monthly Savings Worksheet will help determine how much to save monthly to achieve various financial goals.

In order to perform this calculation, four key pieces of information are needed:

1. Financial goal (estimated cost) = **\$20,000 for car**
2. Dollar amount already saved toward financial goal (present lump-sum) = **\$3,000**
3. Time period desired for accomplishing goal = **5 years**
4. Expected interest rate to be received when investing money = **4 %**

Start first with the dollar amount already saved toward the financial goal and find the future value of that lump-sum using your time period desired (expressed in years) and expected interest rate . . .

$$\begin{array}{rcl}
 \underline{\$3,000} & \times & \underline{1.217} & = & \underline{\$3,651} \\
 \text{present} & & (\text{4 \%}) & & \text{value of} \\
 \text{lump-sum} & & \text{interest rate} & & \text{lump-sum in} \\
 & & \text{factor (from} & & \text{5 years} \\
 & & \text{Table A)} & &
 \end{array}$$

Now calculate the amount of money still needed . . .

$$\begin{array}{rcl}
 \underline{\$20,000} & - & \underline{\$3,651} & = & \underline{\$16,349} \\
 \text{financial} & & \text{value of} & & \text{dollar amount} \\
 \text{goal} & & \text{lump-sum} & & \text{still needed} \\
 & & \text{(calculated} & & \\
 & & \text{above)} & &
 \end{array}$$

Finally, determine the amount needed to be put away monthly in order to achieve your goal in the desired time period (expressed in months) . . .

$$\begin{array}{rcl}
 \underline{\$16,349} & \times & \underline{.0151} & = & \underline{\$247} \\
 \text{dollar amount} & & \text{annuity factor} & & \text{amount to be} \\
 \text{still needed} & & \text{for 4 \%} & & \text{saved monthly} \\
 & & \text{received} & & \text{to achieve goal} \\
 & & \text{annually over} & & \text{at desired rate} \\
 & & \underline{60} \text{ months} & & \text{and time*} \\
 & & \text{(from Table B)} & &
 \end{array}$$

**Please note that this amount does not take into consideration inflation or any taxable income that may be generated from investing this money.*

TABLE A INTEREST FACTOR TABLE - COMPOUNDED FUTURE VALUE OF LUMP-SUM AMOUNT

# of Yrs	4%	5%	6%	7%	8%	9%	10%	11%	12%
1	1.040	1.050	1.060	1.070	1.080	1.090	1.100	1.110	1.120
2	1.082	1.102	1.124	1.145	1.166	1.188	1.210	1.232	1.254
3	1.125	1.158	1.191	1.225	1.260	1.295	1.331	1.368	1.405
4	1.170	1.216	1.262	1.311	1.360	1.412	1.464	1.518	1.574
5	1.217	1.276	1.338	1.403	1.469	1.539	1.611	1.685	1.762
6	1.265	1.340	1.419	1.501	1.587	1.677	1.772	1.870	1.974
7	1.316	1.407	1.504	1.606	1.714	1.828	1.949	2.076	2.211
8	1.369	1.477	1.594	1.718	1.851	1.993	2.144	2.305	2.476
9	1.423	1.551	1.689	1.838	1.999	2.172	2.358	2.558	2.773
10	1.480	1.629	1.791	1.967	2.159	2.367	2.594	2.839	3.106
11	1.539	1.710	1.898	2.105	2.332	2.580	2.853	3.152	3.479
12	1.601	1.796	2.012	2.252	2.518	2.813	3.138	3.498	3.896
13	1.665	1.886	2.133	2.410	2.720	3.066	3.452	3.883	4.363
14	1.732	1.980	2.261	2.579	2.937	3.342	3.797	4.310	4.887
15	1.801	2.079	2.397	2.759	3.172	3.642	4.177	4.785	5.474
16	1.873	2.183	2.540	2.952	3.426	3.970	4.595	5.311	6.130
17	1.948	2.292	2.693	3.159	3.700	4.328	5.054	5.895	6.866
18	2.026	2.407	2.854	3.380	3.996	4.717	5.560	6.543	7.690
19	2.107	2.527	3.026	3.616	4.316	5.142	6.116	7.263	8.613
20	2.191	2.653	3.207	3.870	4.661	5.604	6.727	8.062	9.646
21	2.279	2.786	3.399	4.140	5.034	6.109	7.400	8.949	10.804
22	2.370	2.925	3.603	4.430	5.436	6.658	8.140	9.933	12.100
23	2.465	3.071	3.820	4.740	5.871	7.258	8.954	11.026	13.552
24	2.563	3.225	4.049	5.072	6.341	7.911	9.850	12.239	15.178
25	2.666	3.386	4.292	5.427	6.848	8.623	10.834	13.585	17.000
30	3.243	4.322	5.744	7.612	10.063	13.268	17.449	22.892	29.960
35	3.946	5.516	7.686	10.677	14.785	20.414	28.102	38.575	52.800
40	4.801	7.040	10.286	14.975	21.725	31.409	45.259	65.001	93.051
45	5.841	8.985	13.765	21.003	31.920	48.327	72.891	109.530	163.988
50	7.107	11.467	18.430	29.457	46.902	74.358	117.391	184.565	289.002

TABLE B ANNUITY FACTOR TABLE TO CALCULATE THE AMOUNT OF MONEY TO SAVE MONTHLY IN PURSUIT OF A FUTURE LUMP-SUM GOAL

Monthly % and (Annual %) Rates
 # of Months .33% (4%) .42% (5%) .50% (6%) .58% (7%) .67% (8%) .75% (9%) .875% (10.5%) .01% (12%)

1	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
2	.4992	.4990	.4988	.4985	.4983	.4981	.4978	.4975
3	.3322	.3319	.3317	.3314	.3311	.3308	.3304	.3300
4	.2488	.2484	.2481	.2478	.2475	.2472	.2467	.2463
5	.1987	.1983	.1980	.1977	.1974	.1970	.1965	.1960
6	.1653	.1649	.1646	.1643	.1639	.1636	.1631	.1625
7	.1414	.1411	.1407	.1404	.1400	.1397	.1392	.1386
8	.1235	.1232	.1228	.1225	.1221	.1218	.1212	.1207
9	.1096	.1093	.1089	.1085	.1082	.1078	.1073	.1067
10	.0985	.0981	.0978	.0974	.0970	.0967	.0961	.0956
11	.0894	.0890	.0887	.0883	.0879	.0876	.0870	.0865
12	.0818	.0814	.0811	.0807	.0803	.0800	.0794	.0788
13	.0754	.0750	.0746	.0743	.0739	.0735	.0730	.0724
14	.0699	.0695	.0691	.0688	.0684	.0680	.0675	.0669
15	.0651	.0647	.0644	.0640	.0636	.0632	.0627	.0621
16	.0610	.0606	.0602	.0598	.0594	.0591	.0585	.0579
17	.0573	.0569	.0565	.0561	.0557	.0554	.0548	.0543
18	.0540	.0536	.0532	.0529	.0525	.0521	.0515	.0510
19	.0511	.0507	.0503	.0499	.0495	.0492	.0486	.0481
20	.0484	.0480	.0477	.0473	.0469	.0465	.0460	.0454
21	.0461	.0457	.0453	.0449	.0445	.0441	.0436	.0430
22	.0439	.0435	.0431	.0427	.0424	.0420	.0414	.0409
23	.0419	.0415	.0411	.0408	.0404	.0400	.0394	.0389
24	.0401	.0397	.0393	.0389	.0386	.0382	.0376	.0371
25	.0385	.0380	.0377	.0373	.0369	.0365	.0360	.0354
26	.0369	.0365	.0361	.0357	.0354	.0350	.0344	.0339
27	.0355	.0351	.0347	.0343	.0339	.0336	.0330	.0324
28	.0341	.0337	.0334	.0330	.0326	.0322	.0317	.0311
29	.0329	.0325	.0321	.0317	.0314	.0310	.0304	.0299
30	.0317	.0314	.0310	.0306	.0302	.0298	.0293	.0287
31	.0307	.0303	.0299	.0295	.0291	.0288	.0282	.0277
32	.0297	.0293	.0289	.0285	.0281	.0278	.0272	.0267
33	.0287	.0283	.0279	.0276	.0272	.0268	.0263	.0257
34	.0278	.0274	.0271	.0267	.0263	.0259	.0254	.0248
35	.0270	.0266	.0262	.0258	.0255	.0251	.0245	.0240
36	.0262	.0258	.0254	.0250	.0247	.0243	.0238	.0232
37	.0254	.0251	.0247	.0243	.0239	.0236	.0230	.0225
38	.0247	.0243	.0240	.0236	.0232	.0228	.0223	.0218
39	.0241	.0237	.0233	.0229	.0225	.0222	.0216	.0211
40	.0234	.0230	.0226	.0223	.0219	.0215	.0210	.0205
41	.0228	.0224	.0220	.0217	.0213	.0209	.0204	.0199
42	.0222	.0218	.0215	.0211	.0207	.0203	.0198	.0193

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Monthly % and (Annual %) Rates
 # of .33% .42% .50% .58% .67% .75% .875% .01%
 Months (4%) (5%) (6%) (7%) (8%) (9%) (10.5%) (12%)

43	.0217	.0213	.0209	.0205	.0202	.0198	.0193	.0187
44	.0211	.0208	.0204	.0200	.0196	.0193	.0187	.0182
45	.0206	.0203	.0199	.0195	.0191	.0188	.0182	.0177
46	.0202	.0198	.0194	.0190	.0186	.0183	.0178	.0172
47	.0197	.0193	.0189	.0186	.0182	.0178	.0173	.0168
48	.0192	.0189	.0185	.0181	.0177	.0174	.0169	.0163
49	.0188	.0184	.0181	.0177	.0173	.0170	.0164	.0159
50	.0184	.0180	.0177	.0173	.0169	.0166	.0160	.0155
51	.0180	.0176	.0173	.0169	.0165	.0162	.0156	.0151
52	.0176	.0173	.0169	.0165	.0162	.0158	.0153	.0148
53	.0173	.0169	.0165	.0162	.0158	.0154	.0149	.0144
54	.0169	.0166	.0162	.0158	.0154	.0151	.0146	.0141
55	.0166	.0162	.0158	.0155	.0151	.0148	.0142	.0137
56	.0163	.0159	.0155	.0152	.0148	.0144	.0139	.0134
57	.0160	.0156	.0152	.0148	.0145	.0141	.0136	.0131
58	.0157	.0153	.0149	.0145	.0142	.0138	.0133	.0128
59	.0154	.0150	.0146	.0142	.0139	.0135	.0130	.0125
60	.0151	.0147	.0143	.0140	.0136	.0133	.0127	.0122
...								
72	.0123	.0119	.0116	.0112	.0109	.0105	.0100	.0096
84	.0103	.0100	.0096	.0093	.0089	.0086	.0081	.0077
96	.0089	.0085	.0081	.0078	.0075	.0072	.0067	.0063
108	.0077	.0074	.0070	.0067	.0064	.0060	.0056	.0052
120	.0068	.0064	.0061	.0058	.0055	.0052	.0047	.0043
132	.0060	.0057	.0054	.0051	.0047	.0045	.0041	.0037
144	.0054	.0051	.0048	.0045	.0042	.0039	.0035	.0031
156	.0049	.0046	.0042	.0039	.0037	.0034	.0030	.0027
168	.0045	.0041	.0038	.0035	.0032	.0030	.0026	.0023
180	.0041	.0037	.0034	.0032	.0029	.0026	.0023	.0020
192	.0037	.0034	.0031	.0028	.0026	.0023	.0020	.0017
204	.0034	.0031	.0028	.0026	.0023	.0021	.0018	.0015
216	.0032	.0029	.0026	.0023	.0021	.0019	.0016	.0013
228	.0029	.0026	.0024	.0021	.0019	.0017	.0014	.0012
240	.0027	.0024	.0022	.0019	.0017	.0015	.0012	.0010
252	.0025	.0023	.0020	.0018	.0015	.0013	.0011	.0009
264	.0024	.0021	.0018	.0016	.0014	.0012	.0010	.0008
276	.0022	.0019	.0017	.0015	.0013	.0011	.0009	.0007
288	.0021	.0018	.0016	.0013	.0012	.0010	.0008	.0006
300	.0019	.0017	.0014	.0012	.0011	.0009	.0007	.0005